Available IHC Double Staining Kits	USABLE FOR
SATB2/ Ck20 Reagent	Colorectal Cancer
p63/ p504S Reagent	Prostatic Cancer
p40/NapsinA Reagent	Lung Cancer
p16/Ki-67 Reagent	Cervical Carcinoma
Kappa/ Lambda Reagent	Lymphoma
Ck7/ p63 Reagent	Lung Cancer
CK7/ Calponin Reagent	Breast Cancer
CK5/ TTF-1 Reagent	Lung Cancer
CK5&6/ TTF-1 Reagent	Lung Cancer
CK(pan)/ p63 Reagent	Prostatic Cancer

Automatic Stainer for IHC Double Staining

- Optimized hardware and software settings for effective Double Staining in immunohistochemistry
- Faster and more economical staining process
- Suitable also for Thinprep Cytologic Tests (TCT)

- Simple operating process
- Fully automatic operation
- Both markers at same time

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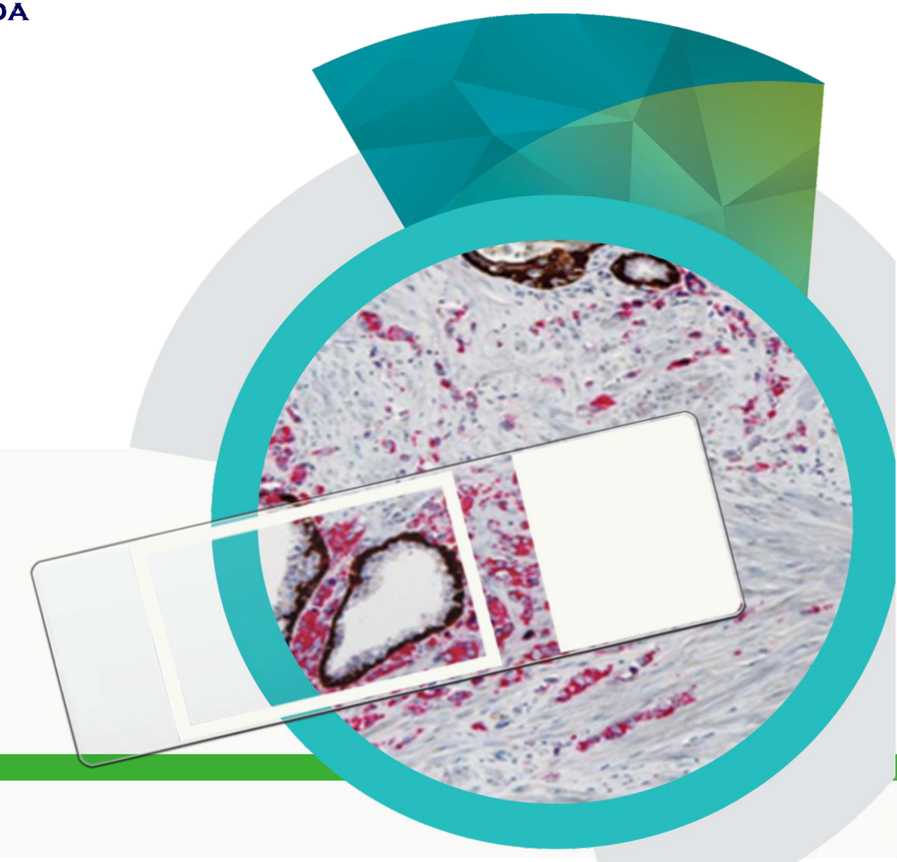
LABEX CANADA

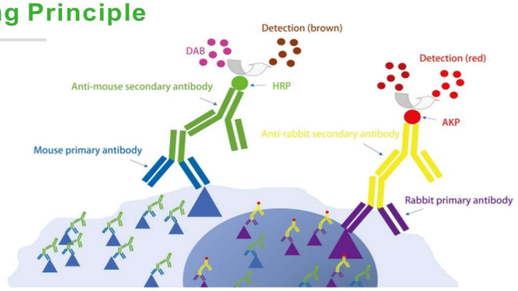


Immunohistochemistry(IHC) Double Staining

IHC Double Staining

Two different primary antibodies are applied simultaneously to one tissue sample to detect two different antigens. The final picture shows two different colors visualizing two different tumor markers at the same time.

Double Staining Principle



- Two different primary antibodies for two different antigens are applied to one tissue sample simultaneously. First antibody originates in rabbits, second in mice (or both are from mouse, but the first one is the IgG1 subclass and the second one is the IgG2a subclass of mouse immunoglobulins.
- Two corresponding secondary antibodies (anti-rabbit and anti-mouse, alternatively anti IgG1 and IgG2a antibodies) labeled with the different labels are used subsequently on the tissue.
- After anzymatic color development on the stained tissues two different colors are visible in the same sample.
- Most common label combinations for secondary antibodies are horse radish peroxidase (HRP) and alkaline phosphatase (AKP) or HRP and glucose oxidase.

Advantages

- Compared to the regular, single staining, the double staining gives a significant diagnostic advantage (e.g. in cervical cancer, lung cancer and prostatic cancer diagnoses).
- Doubel staining increases staining process efficiency and decreases labor, reagent and space requirements.
- By a waste reduction the double staining is also more eco friendly.

Application Possibilities

- Tissue biopsies - more tumor markers visualized at the same time.
- Cytological evaluations - e.g. Thinprep Cytologic Teses.
- Determination of the tumor morphological characteristics - e.g. in prostate tumors and breast cancer
- Normal vs. abnormal cells differentiation - e.g. in lymphomas
- Degree of cell differentiation - e.g. p16/K67 expression in cervical cancer

p16/ Ki67 Double Staining

In CIN cervical lesions after HPV infection a higher amount of HPV E7 protein is producted followed by p16 protein production. p16 is then clearly visible in cells' nuclei and cytoplasms. Testing simultaneously for Ki67 gives a good picture about the cell proliferation atatus (G-phase, or S-phase), an important diagnostic feature in cervical cancer.

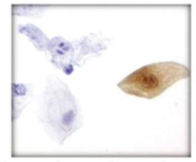
Advantages

- High sensitivity and specificity, to make up for the lack of specificity of HPV and sensitivity of cytology.

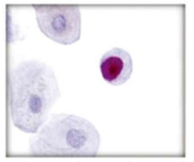
	Sensitivity	Specificity
Cytology	66.4%	95.4%
Double Staining	90.1%	95.3%
HPV	96.4%	90.2%

primary ASCUS LSIL Marker Study (PALMS) test

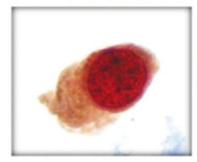
- Easier to read, two colors distinguished quickly and clearly.

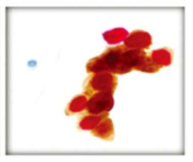


p16 Separate Staining



Ki-67 Separate Staining





Double Stained Positive Cells

- It can effectively reduce the rate of missed diagnosis of high-grade cervical lesions.
- To provide sufficient time and basis for clinical and patient diagnosis and treatment, and to improve early cervical disease detection and early intervention.
- Reduce or avoid unnecessary colposcopy.